Establishing a Baseline Measurement

We recommend the following protocol in order to get a baseline for your patient’s progesterone levels:

For patients not experiencing chronic pain/undergoing opioid treatment: one sample collected in the morning [taken between 7 – 10 am], and one sample taken in the late afternoon/evening. Both samples should be collected within a week of each other.

For patients experiencing chronic pain, or undergoing/ being considered for opioid treatment; two samples a week apart should be submitted. It is established in both genders, that chronic treatment with opioids leads to hypogonadism, which appears to be more pronounced in men than women.7,8

What are normal ranges for Progesterone?

<table>
<thead>
<tr>
<th></th>
<th>Normal (Low) (ng/ml)</th>
<th>Normal (High) (ng/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>0.01</td>
<td>2.4</td>
</tr>
<tr>
<td>Women (pre-menopausal)</td>
<td>0.01</td>
<td>30</td>
</tr>
<tr>
<td>Women (post-menopausal)</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Clinical Implications

Progesterone is both endogenously produced as well as readily available in both over the counter and prescription form. Patients may show the following symptoms with high progesterone:

- Abdominal cramping
- Alterations in lipid levels
- Back pain
- Breast tenderness
- Constipation
- Dizziness
- Dysphoria
- Edema
- Fatigue
- Fluid retention
- Hyper-coagulant states
- Hypotension
- Weight gain

Note: Progesterone is available in some cosmetic creams, without a prescription. This may result in elevated levels in some patients that undergo capillary collection.

Introduction

Progesterone is found in both genders, where it is secreted by the adrenal glands (source for the majority in men), the gonads, and the nervous system (both peripheral and central).
Progesterone:

High abnormal results may indicate:
- Adrenal tumors
- Ovarian cysts
- Ovarian tumors
- Pregnancy
- Congenital adrenal hyperplasia

Low abnormal results may indicate:
- Amenorrhea
- Ectopic pregnancy
- Ovarian failure
- Miscarriage

For pre-menopausal women, progesterone levels during the follicular phase is expected to be low. Serum concentrations normally rise throughout the cycle, reaching the highest concentrations during the mid-luteal phase. Concentrations greater than or equal to 3 ng/ml generally indicate that ovulation has occurred.3

During pregnancy, progesterone is secreted by the placenta, and has been found to be key to embryonic/fetal survival. Serum values increase during the duration of the pregnancy, and begin to fall when labor is imminent.4

Additional Information:

Progesterone values that fail to rise/fall with menstrual cycle may indicate a cause of infertility (luteal phase deficiency), but this has recently been deemed irrelevant by the American Society for Reproductive Medicine.6 If progesterone levels do not rise normally during a pregnancy, it may indicate possible failure, or other fetal issues. Specialist referral is recommended.

Citations